REMARKS

Claims 11-20 are rejected under 35 USC §102(e) as being anticipated by Sano et al., U.S. 6,664,565.

Applicants respectfully traverse the rejection.

Independent claims 11 and 16 have now been amended to recite a n-type ZnO layer and a p-type ZnO layer being annealed in air to activate p-type conductivity.

In contrast, Sano et al. '565 describes growing a low temperature growth ZnO layer on a sapphire substrate at a temperature lower than a single crystal ZnO growth temperature. Sano et al. '565 illustrates a LED having a p-n junction made of p-type semiconductor ZnO doped with N impurities and n-type semiconductor ZnO doped with Ga impurities, and in particular an N-doped p-type high temperature growth ZnO single crystal layer 315 formed on ZnO single crystal layer 311, which is n-type, and having a thickness of 100 nm. Sano et al. '565 does not describe annealing the ZnO layers to activate p-type conductivity. Secondly, the n-type ZnO single crystal layer 311 is formed on a buffer layer. Note claims 1 and 16 recite the n-type ZnO layer being formed on a substrate not a buffer layer. Therefore, Sano et al. '565 does not anticipate independent claims 11 and 16, respectively.

As to claims 12-15 and 17-20, they are dependent on claims 11 and 16, respectively. Therefore, claims 12-15 and 17-20 are also allowable for the same reasons argued with respect to claims 11 and 16.

In view of the above amendments and for all the reasons set forth above, the Examiner is respectfully requested to reconsider and withdraw the rejection made under 35 U.S.C. §102. Accordingly, an early indication of allowability is earnestly solicited.

If the Examiner has any questions regarding matters pending in this application, please

feel free to contact the undersigned below.

Respectfully submitted,

Matthew E. Connors
Registration No. 33,298
Gauthier & Connors LLP
225 Franklin Street, Suite 2300
Boston, Massachusetts 02110
Telephone: (617) 426-9180
Extension: 112